

put down upon the Mahábaleshvar plateau have not succeeded. In the Sholápur Division 1,001 $\frac{9}{40}$ acres were treated by hired labour under the systems of full-ploughing, furrow-ploughing, pitting or dibbling, drilling. The cost of carriage of seeds from other parts of the country amounted to Rs. 225, and the cost of labour to Rs. 1,141-14-0. In addition thereto, 85 forest guards planted in pits over 181 acres and broad-casted 4,521 acres. No extensive plantations are to be found in the two Gujarát divisions. In the Surat Division 1,302 acres were planted up inside the reserves at a cost of about 3 $\frac{1}{2}$ annas the acre, and in the Panch Maháls 148 acres of blanks were planted by forest guards.

• 99. The results of artificial plantations are not everywhere the same. In places where the soil is good, and the rainfall seasonable, success has been highly satisfactory, while in other places failure has to be chronicled; but the success or otherwise of such plantation works can only be realised after a period of years, and is much dependent upon the treatment the lands receive subsequently to their planting.

100. There is nothing interesting to mention regarding experiments with *exotics*.

101. The divi-divi, carob, *Pithecolobium saman*, varieties of eucalypti, *Grevillea robusta*, mahogany trees, &c., which had established themselves in former years, are growing well. Some mahogany seed received during the year was experimented with; and while the quantity sown in some divisions germinated only to die; in others—Násik for choice—seedlings are doing well. The total expenditure of the circle under Plantations A VIII (d) amounts to Rs. 7,461-3-0.

(H)—COMMUNICATIONS AND BUILDINGS.

(a)—ROADS AND BRIDGES.

102. There are several reasons why no great works by the Forest Department in the construction of roads and bridges have to be recorded. In the first place, this Presidency has, since it has come under British rule, been opened out in all directions by roads, new roads have been constructed from year to year by the Public Works Department and the Local Funds Department to feed railway stations, bandars of export to connect centres of trade and to facilitate commerce; and, possibly, in the matter of roads the Bombay Presidency is in the forefront of such civilization in the British Empire.

103. Then, again, cart tracks abound in all directions, traversing forests and making their remotest spots accessible. Of course there are forests and portions of forests not yet approachable by wheeled carriage, but the time for remedying this defect has still to come. The existing cart tracks serve all ordinary purposes of forest exploitation; they might be converted into metalled roads at considerable cost, but the advantage of this being done upon any extended scale is questionable, for the cost of annual repairs in the country of a heavy rainfall would be a considerable item in the budget, while there might not be a proportionate increase of receipts by the improved communication. Further, one-half of the surplus revenue of the Forest Department is given to the Provincial Services budget, at the expense of which many miles of roads, which are of use to the Forest Department, are constructed by officers of the Public Works Department. Lastly, Divisional Forest Officers have their attention and time fully employed in managing the ordinary business of their forests without undertaking work which is not altogether in the regular groove of their professional education or business. And, however strong their desire may be to construct roads, the fact remains that forest budget sanctions are not generally lavish of funds; indeed, it is only with great care and supervision that the expenditure incidental to the protection of the forests, to organization, to plantations, to felling and exploitation of material to produce revenue is kept within the sanctioned limits.

104. In the Thána Division the road leading up to Tungár hill has been repaired departmentally, and a cart road has been made to the forest bungalow at Párol, in the Bassein Range. And a road, 1 mile and 1,220 feet in length, over the Satevli Khind has been constructed by the Public Works Department, at the instance of the forest officers, to open out the forests of the south-western portion of the Bassein Range to a railway station, to bandars of export, and to

coast villages; and a survey has been made by the Executive Engineer of Thána, also at the instance of forest officers, to carry a road from Váda, through the Mokháda Peta up the Western Gháts, into the Igatpuri Táluka of the Násik Collectorate. This road will traverse rich and valuable forests. In South Thána the road from Kalyán Station towards the Málsej Ghát was under construction by the Public Works Department, and will be of use for the carriage of forest produce, and a project is under discussion for extending the Dáhanu-Jawhár road to Mokháda. In the Ahmednagar Division the Jaolé-Báleshvar forest road was repaired. In the Dángs Rs. 361-15-7 were expended upon road repairs. In the Sátára Division Rs. 211-4-6 were expended in rasing off the difficult places upon a forest cart track from Karád to Kálgaon, and making it a good road for timber-laden carts.

(b)—HOUSES AND BUILDINGS.

105. The construction of office accommodation for range forest officers attached to the Mámlatdárs' kacheris has been carried on year after year by the Public Works Department, at the cost of the Provincial Services budget, at the instance of the Forest Department. During the year of report, offices have been provided for 20 ranges, and the following table shows the progress made and remaining to be made in the several divisions at the end of the year :—

No.	Division.	Number of Ranges.	Ranges provided with offices.	Ranges remaining to be provided.
1	North Thána	6	5	1
2	South Thána	8	8	...
3	East Khándesh	13	8	5
4	West Khándesh	10	7	3
5	Násik	14	5	9
6	Ahmednagar	11	8	3
7	Poona	11	6	5
8	Sátára	14	10	4
9	Sholápur	7	3	4
10	Surat	6	2	4
11	Panch Maháls	5	5	...
Total		105	67	38

106. Houses have been built for forest guards in several directions, in order to provide them with accommodation at Government expense, and to render them independent of villagers for lodging. This scheme would be more effective, than it can be, if the forest guards' beats were small enough to allow the men to visit their forests and return to their huts at night, but unfortunately such is not the case. Taking the Kalyán Range of South Thána as an example, it will be found that this range is divided into 28 beats, and the number of villages contained in a beat are 2, 4, 5, 6, 7, 8, 10, 11, 13, 17, 25, 29, 45 in respective cases. A forest station has 4 rooms and a forest post has 3 rooms, which are intended for the accommodation of round guards and the range forest officers on tour. In the North Thána Division 38 forest stations and 82 forest posts were built during the year, and in South Thána 62 forest posts at a cost of Rs. 620. In the Ahmednagar Division a forest house for accommodating the forest guards and storing hirda was built in the Panchnai forest at a cost of Rs. 86-9-6. In the Panch Maháls 17 forest stations were built, consisting of 4 huts, 14' x 14', placed at the four corners of an enclosure 100 feet square. Náka depôt houses and forest rest-houses in different divisions have been repaired as required.

107. The expenditure upon communications and buildings for the year amounts to Rs. 5,859-4-9 :—

			Rs.	a.	p.
a	Roads and bridges	...	597	11	2
b	Houses	...	5,254	9	7
c	Other works	...	7	0	0

(I)—CUTTING OF CREEPERS, REMOVAL OF INFERIOR SPECIES,
AND EARLY THINNINGS.

108. The eradication of prickly pear (*Opuntia dillenii*) is carried on by forest guards in the bábul reserves in the plains of the Deccan, where it is of fresh appearance and in small quantities. But in several of the reserves the prickly pear has grown and extended so in past years that it has become the principal species, and its eradication is a very desirable performance. Upwards of Rs. 400 were expended in the Poona Division in cutting it down and destroying it from the Gozubari and other reserves. In the same way the prickly pear was removed to a certain extent from the Khandála and Tásgaon Reserved Forests of the Sátára Division at a cost of Rs. 124-3-0, and a small expenditure was likewise incurred in the Sholápur Division for like purpose.

CHAPTER IV.

YIELD AND WORKING.

1.—DEPARTMENTAL OPERATIONS.

(a)—TIMBER.

North Thána Division.

• • 109. The timber felled departmentally and sold in lump, the produce of each forest, separately by auction or tender to the trade appears in the following statement:—

No.	Range.	Number of Trees felled.	YIELD.		Cost.	Receipts.			Remarks.
			Timber Pieces.	Fire- wood (Carts).		Rs.	a.	p.	
Teak Fellings.						Rs.	a.	p.	
1	Sálsette ...	3,000	4,694	298	1,142 7 10	5,835	4	0	
2	Bassein ...	7,751	12,361	825	1,619 2 4	9,692	15	3	
3	Váda			
4	Máhím ...	11,457	16,148	1,875	2,222 7 2	10,204	8	0	
5	Dáhánu ...	18,710	24,837	2,723	2,725 8 0	21,767	14	0	
6	Umbargaon ...	7,154	8,845	531	1,724 11 0	7,847	4	6	
Total ...		48,072	66,885	6,252	9,434 4 4	55,347	13	9	
Ain, Khair, Tivas, &c., Fellings.									
1	Bassein ...	1,500	2,275	206	408 14 0	1,000	0	0	
2	Máhím ...	4,000	4,599	440	767 12 9	4,445	0	0	
3	Dáhánu ...	2,143	1,947	412	626 12 3	2,726	0	0	
Total ...		7,643	8,821	1,052	1,803 7 0	8,171	0	0	

110. Firewood has been included in the above, as it consisted of the crown branches, loppings, and stumps of the timber. About 3,500 cart-loads of it were sold to villagers residing on the coast for home consumption at 8 annas a cart-load, and it was taken away on permits. The villagers appreciate this system of sale, and it has advantages for the department, in so far as it keeps people out of the forests who would otherwise be searching for dead-wood, and would be aiding in its manufacture.

111. Retail auction sales of timber, made with a view of placing facilities in the way of villagers for supplying their wants in building and other material, were not generally successful. At some of the sales the attendance of purchasers was good, and the bidding brisk, but at others, in the Máhím and Dáhánu ranges, there was no demand at all, and the material had to be sold subsequently for the trade.